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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/923,107	08/06/2001	William S. Yerazunis		9557

7590 04/29/2005

Patent Department  
Mitsubishi Electric Research Laboratories, Inc.  
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EXAMINER

PATEL, SHEFALI D

ART UNIT PAPER NUMBER

2621

DATE MAILED: 04/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/923,107	<b>Applicant(s)</b> YERAZUNIS ET AL.	
	<b>Examiner</b> Shefali D Patel	<b>Art Unit</b> 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 20-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19, 25-29 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date: _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                    | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election without traverse of claims 1-19 and 25-29 in the reply filed on March 11, 2005 is acknowledged.
2. Claims 20-24 have been cancelled.

### ***Response to Amendment***

3. The amendment was filed on October 26, 2004.
4. Claim objection to claims 14 and 29 has overcome and withdrawn.
5. 35 U.S.C. 112 2<sup>nd</sup> paragraph rejection to claim 12 has overcome and withdrawn.

### ***Response to Arguments***

6. Applicants' arguments, see remarks on pages 8-16, filed on October 26, 2004, with respect to the rejection(s) of claim(s) 1-5, 7-8, 10-11, 15-20 and 23-29 under 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Cox et al. (US 5,991,426).

Although the overall argument of the applicant is persuasive, the examiner would like to make some comments on the remarks filed on October 26, 2004.

The applicants repeatedly states throughout the remarks that the examiner needs to "familiarize with the field of steganography to understand the invention," (page 8) and that "perhaps, with all due respect, the Examiner does not clearly understand the stated problem to be solved by the invention." The examiner would like to state that she does understand the invention and is also familiar with the field of steganography." The applicant may have made these remarks because the prior art used to reject the claims were not in the field of steganography. Nevertheless, the examiner should point out that claims 1 and 25 in its preamble recite "A method (An apparatus) for displaying an image only to an authorized user." This does not necessary mean steganography or watermark. "Authorized" means "to give

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permission/authority for/to.” Claims 1 and 25 were given its broadest interpretation possible; hence, the prior art did not have to disclose the concept of steganography since it is not implicitly claimed.

The applicants further state on page 12 that “Because the mask is a negation of the data image, the perceived image is ‘gray.’ That is, the solution exactly provides the desired result.” Please note that independent claim 1 and 25 says nothing about the image (mask image) being a gray image. The prior art does not have to disclose a gray image in order to meet the limitations of claims 1 and 25, as again the claims are given its broadest interpretation possible.

The examiner would like to point out applicant’s error on page 13 of the remarks. Applicants state column 6 from Hiroaki’s reference. The examiner would like to point out that the passage stated on page 13 of the remarks with regards to Figure 7b and 7c of Hiroaki is at column 28 of the reference and not at column 6.

Regardless, upon further consideration, a new ground(s) of rejection is made in view of Cox et al. (US 5,991,426).

7. Upon further consideration, search and cancellation of claim 21 the allowability of claims 6, 9, 13 and 21 has been withdrawn.

#### ***Claim Rejections - 35 USC § 103***

8. Claims 1, 11-12, 15, 18-19, 25 and 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cox et al. (hereinafter, “Cox”) in view of Tourai (US 6,784,887).

With regard to **claim 1** Cox discloses a method for displaying an image only to an authorized user (col. 2 lines 13-18), comprising: generating a data image (input image data 102, Figure 1, note that Field based watermarked data 120 is generated from the image data 102. Data 120 is the original data 102 containing positive and negative watermark); generating a mask image (116, figure 1), wherein the mask image is a negation of the data image (the image data 108 is negated using negative watermark inserter 112 to produce the mask image 116, Figure 1, col. 4 line 60 to col. 5 lines 1-12, col. 6 lines 19-25). Cox

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discloses having data with positive and negative watermark. However, Cox does not expressly disclose selecting between data and mask image to sequentially display the images. Tourai discloses selecting different mode at col. 3 lines 11-17 and displaying images depending on a mode at col. 4 lines 19-30. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Tourai with Cox. The motivation for doing so is to provide an image processing device which prevents image displayed on a display device from being viewed by a third party as disclosed by Tourai at col. 1 lines 57-58. Therefore, it would have been obvious to combine Tourai with Cox to obtain the invention as specified in claim 1.

With regard to **claim 11** Tourai discloses select signal generated by a random generator (the select signal is randomly generating the image on the display unit until a third party (i.e., unauthorized user) is viewing the image, then the select signal make sure that the 'dummy' image is displayed).

With regard to **claim 12** Tourai discloses displaying images in pairs in random order at col. 4 lines 19-30 as normal and dummy image.

With regard to **claim 15** Cox discloses negating data image by element 112 in Figure 1 and since the entire image data is being negated, each pixel in the data image is being negated. Tourai displays the images sequentially as disclosed above in claim 1 and the arguments are not repeated herein, but are incorporated by reference.

With regard to **claim 18** Tourai discloses select signal generated by a random generator (the select signal is randomly generating the image on the display unit until a third party (i.e., unauthorized user) is viewing the image, then the select signal make sure that the 'dummy' image is displayed).

With regard to **claim 19** Cox discloses the video input 102 (col. 4 lines 52-53) and negating to produce the mask image at 112 and 116 in Figure 1.

**Claim 25** recites identical features as claim 1 except claim 25 is an apparatus claim. Thus, arguments similar to that presented above for claim 1 is equally applicable to claim 25. Note that the

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system is disclosed in Figure 1 of Cox and the video input 102 (col. 4 lines 52-53) is captured by a video camera.

With regard to **claim 27** Tourai discloses the data and mask images (dummy images) selected periodically (col. 3 lines 11-37).

**Claim 28** recites identical features as claim 11. Thus, arguments similar to that presented above for claim 11 is equally applicable to claim 28.

With regard to **claim 29** both Cox and Tourai discloses image including plurality of pixels and Cox discloses each pixel (in the image) of the data image negated serially (element 108, 112, and 116 in Figure 1).

9. Claim 2-6, 10, 13-14, 16-17 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cox et al. (hereinafter, "Cox") in view of Tourai (US 6,784,887) as applied to claims 1, 11-12, 15, 18-19, 25 and 27-29 above, and further in view of Stern et al. (hereinafter, "Stern") (US 6,597,328).

With regard to **claim 2** Cox (as modified by Tourai) discloses all of the claimed subject matter as already discussed above in claim 1 and the arguments are not repeated herein, but are incorporated by reference. Neither Cox nor Tourai expressly disclose the shutter device as disclosed in claim 2. Stern discloses opening/shutting the optical shutter display device 20B as disclosed at col. 5 lines 38-43, col. 6 lines 6-33. Stern also discloses synchronizing the opening and shutting to the select signal at col. 7 lines 3-6, 21-33. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Stern with Cox and Tourai. The motivation for doing so is to provide an authorized user a private view of the private data simultaneous to which an unauthorized viewer can see only the bursts of obscuring light which stimulate the retina of the unauthorized viewer's eyes so that the unauthorized viewer cannot discern the content of the display as taught by Stern at col. 7 lines 49-61. Therefore, it would have been obvious to combine Stern with Cox and Tourai to obtain the invention as specified in claim 2.

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With regard to **claim 3** Stern discloses polarizing lens at col. 5 lines 61 to col. 6 lines 1-5.

With regard to **claims 4 and 5** Stern discloses opening and shutting by a wire/wireless link at col. 4 lines 61-65.

With regard to **claim 6** Stern discloses synchronization according to a phase (i.e., time) at col. 7 lines 21-33.

With regard to **claim 10** Stern discloses alternately selecting the data and mask images according to clock cycles at col. 7 lines 21-33.

With regard to **claim 13** Stern discloses random generator operating according to an internal seed value and a real-time supplied value (col. 9 lines 10-26).

With regard to **claim 14** Stern discloses random signals for opening and shutting the shutter devices for first and second signal and synchronizing these signals at Step 110 in Figure 5.

**Claim 16** recites identical features as claim 2. Thus, arguments similar to that presented above for claim 2 is equally applicable to claim 16. Please note that since the entire image is being displayed in the-shutter device the pixel of the image are displayed as well.

With regard to **claim 17** Stern discloses alternately selecting the data and mask images according to clock cycles at col. 7 lines 21-33.

**Claim 26** recites identical features as claim 2. Thus, arguments similar to that presented above for claim 2 is equally applicable to claim 26.

10. Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cox et al. (hereinafter, "Cox") in view of Tourai (US 6,784,887) as applied to claims 1, 11-12, 15, 18-19, 25 and 27-29 above, and further in view of Hiroaki (US 6,661,425).

With regard to **claim 7** Cox (as modified by Tourai) discloses all of the claimed subject matter as already discussed above in claim 1 and the arguments are not repeated herein, but are incorporated by

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reference. Tourai discloses the image being a color image at col. 4 lines 37-50 but not specifically each color channel in details. Hiroaki discloses a color image and the negation is done independently for each color channel of the color image (col. 28 lines 5-11). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Hiroaki with Tourai and Cox. The motivation for doing so is to negate each color channel (i.e., R, G, B) separately for better quality of the image for authorized user. Therefore, it would have been obvious to combine Hiroaki with Tourai and Cox to obtain the invention as specified in claim 7.

With regard to **claim 8** Hiroaki discloses gamma-correcting each color channel at col. 14 lines 31-36.

With regard to **claim 9** Hiroaki discloses intensity in a range from 0 to 255 and outputs that as part of a mask image at col. 26 lines 58 to col. 27 lines 1-3.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shefali D Patel whose telephone number is 571-272-7396. The examiner can normally be reached on M-F 8:00am - 5:00pm (First Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh M Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



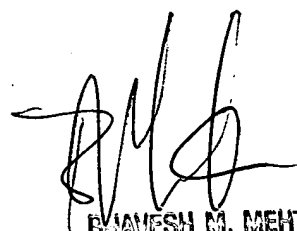
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Shefali D Patel

Examiner

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April 20, 2005



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